

What is claimed is:

SUB A1
1. A longitudinal or perpendicular magnetic recording medium comprising:
a substrate comprising Li;
a sealing layer comprising NiNb; and
a magnetic layer,
wherein the sealing layer substantially prevents migration of Li from the
substrate.

SUB C1
2. The magnetic medium according to claim 1, further comprising:
an underlayer between the sealing layer and the magnetic layer; and
a protective overcoat on the magnetic layer,
wherein the substrate comprises a glass or glass-ceramic material comprising
about 0.5 to about 32 wt.% lithium oxide (Li_2O).

3. The magnetic recording medium according to claim 1, wherein the surface
of the sealing layer is oxidized.

SUB A2
4. The magnetic recording medium according to claim 1, wherein said NiNb
is amorphous NiNb.

SUB C2
5. The magnetic recording medium according to claim 1, further comprising
an adhesion enhancement layer between the substrate and the sealing layer.

6. The magnetic recording medium according to claim 5, wherein the adhesion enhancement layer comprises Cr or Cr alloy.

7. The magnetic recording medium according to claim 1, wherein the thickness of the sealing layer is about 100Å to about 1,000Å.

8. The magnetic recording medium according to claim 1, wherein the NiNb sealing layer further comprises about 0.1 wt.% to about 5 wt.% of a material selected from the group consisting of boron, tungsten, tantalum, zirconium and phosphorus.

9. The magnetic recording medium to claim 1, further comprising a chromium-vanadium underlayer on the sealing layer, wherein the magnetic layer comprises an alloy of Co, Cr, Pt and Ta.

10. A method of manufacturing a longitudinal or perpendicular magnetic recording medium, the method comprising:

sputter depositing a sealing layer comprising NiNb on a substrate comprising Li;
and
sputter depositing a magnetic layer on the sealing layer;
wherein the sealing layer substantially prevents migration of Li from the substrate.

11. The method according to claim 10, further comprising:

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sputter depositing an underlayer on the sealing layer prior to said sputter depositing the magnetic layer; and

sputter depositing a protective overcoat on the magnetic layer,

wherein the substrate comprises a glass or glass-ceramic material comprising about 0.5 to about 32 wt.% lithium oxide (Li_2O).

12. The method according to claim 10, further comprising oxidizing the surface of the sealing layer.

sub p3 13. The method according to claim 10, wherein said NiNb comprises amorphous NiNb.

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14. The method according to claim 10, further comprising sputter depositing an adhesion enhancement layer on the substrate prior to said sputter depositing the sealing layer.

15. The method according to claim 14, wherein the adhesion enhancement layer comprises Cr or Cr-alloy.

16. The method according to claim 10, wherein the thickness of the sealing layer is about 100Å to about 1,000Å.

17. The method according to claim 10, wherein the amorphous NiNb sealing layer further comprises about 0.1 wt.% to about 5 wt.% of a material selected from the group consisting of boron, tungsten, tantalum, zirconium and phosphorus

18. The method according to claim 10, comprising sputter depositing the sealing layer using a target comprising at least 12 wt.% Nb.

19. The method according to claim 10, wherein the magnetic layer comprises an alloy of Co, Cr, Pt and Ta.

20. A longitudinal or perpendicular magnetic recording medium comprising:
a substrate comprising Li;
a sealing means for substantially preventing migration of Li from the substrate;
and
a magnetic layer.